ECON232

Econometric Principles

S2 Evening 2016

Dept of Economics

Contents

General Information

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Credit points
3

Prerequisites
ECON141 or ECON241 or STAT272

Corequisites

Co-badged status

Unit description
This unit provides an introduction to modern econometric techniques. Its principal objectives are to extend students' knowledge beyond the classical regression model and to develop literacy in methods that are commonly used to analyse data in economics, finance and business. The topics covered usually include heteroscedasticity, stochastic regressors, limited dependent variables, time-series regression and panel data analysis. This unit will be of value to any students who are interested in how useful information may be inferred from economic data in a logically valid way.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

Understand the econometric concepts relevant for each topic covered in the unit.

Estimate econometric models and test parametric hypotheses using techniques that are appropriate for the problem at hand.

Diagnose and resolve heteroscedasticity, endogeneity, autocorrelation and non-stationarity problems in econometric models.

Evaluate the appropriateness of alternative econometric techniques in practical applications.

Assessment Tasks

Name	Weighting	Due
Tutorial Exercises	10%	Weeks 2-13 in class
Assignments	30%	Monday 7am in weeks 7 and 12
Final Examination	60%	University Examination Period

Tutorial Exercises

Due: **Weeks 2-13 in class**
Weighting: **10%**

Submission

The tutorial exercises must be attempted and submitted during the tutorial class in which the student is officially enrolled each week. The exercises will not be made available for assessment at any other time. Each tutorial assesses work that has been covered in previous lectures, with

an emphasis on the most recent work. Students are permitted to re-attempt questions that they have incorrectly answered any number of times during the class, but a penalty of 20% will apply to each question, each time that each question is re-attempted (i.e. the maximum available marks from each question decays linearly as the number of attempts increases). The best 10 out of 12 tutorial results will contribute 1% each to the final grade.

What is required to complete the unit satisfactorily

Students must demonstrate satisfaction of the learning objectives assessed in each particular tutorial exercise. Students are welcome to consult reference material during the tutorial, and may discuss the work with other students and the tutor. However, the responses that students submit must reflect their own ideas and work. In particular, students who submit the answers of other students, without making any contribution to the derivation of the answers, will be deemed to have violated the Academic Honesty Policy. Students must bring their Macquarie University Campus Card to each tutorial and to present it when requested. Failure to present a campus card when requested may result in a student being refused access to the tutorial.

Extensions

No extensions will be granted. Students who have not submitted the task prior to the deadline will be awarded a mark of 0 for the task, except for cases in which Special Consideration is granted by the University in response to a notification of disruption to studies being submitted by the student. In such cases a mark will be awarded for the missed tutorial that is equal to the mean of the marks attained in the tutorials that were attended.

On successful completion you will be able to:
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- Estimate econometric models and test parametric hypotheses using techniques that are appropriate for the problem at hand.
- Diagnose and resolve heteroscedasticity, endogeneity, autocorrelation and non-stationarity problems in econometric models.
- Evaluate the appropriateness of alternative econometric techniques in practical applications.

Assignments

Due: **Monday 7am in weeks 7 and 12**
Weighting: **30%**

There are two assignments. Each assignment assesses work covered in lectures up to the submission deadline and contributes 15% to the final assessment.

Submission Each assignment will be a web-based task made available on iLearn once sufficient material has been covered in lectures to enable students to start the work. Responses to the assignment questions must be submitted via the iLearn interface for the assignment task. Each assignment may be submitted once only.

What is required to complete the unit satisfactorily

Students must demonstrate satisfaction of the learning objectives assessed in each particular assignment. Students will be awarded a numerical mark for each assignment that indicates the proportion of the questions that they answered correctly.

It is intended that students will work on the assignments independently. Students who collude or otherwise violate the Academic Honesty Policy will face further action which may result in failure in the unit (with an SNG of zero) and more severe penalties.

Extensions No extensions will be granted. Late tasks will be accepted up to 48 hours after the submission deadline. There will be a deduction of 35% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example, 25 hours late in submission – 70% penalty). This penalty does not apply to cases in which Special Consideration is granted by the University in response to a notification of disruption to studies being submitted by the student.

On successful completion you will be able to:

- Understand the econometric concepts relevant for each topic covered in the unit.
- Estimate econometric models and test parametric hypotheses using techniques that are appropriate for the problem at hand.
- Diagnose and resolve heteroscedasticity, endogeneity, autocorrelation and non-stationarity problems in econometric models.
- Evaluate the appropriateness of alternative econometric techniques in practical applications.

Final Examination

Due: **University Examination Period**
Weighting: **60%**

The final examination is of 2 hours duration and will be held in the official Macquarie University examination period. All students must attend the examination at the time and place designated in the University Examination Timetable. The examination will include short answer questions that require both calculation and written responses. Details of the structure of the final examination will be provided when available during the semester.

Students who do not attend the final examination will be awarded a grade of FA (Failed Absent). The only exceptions to this are cases in which the University grants the student Special Consideration in response to a notification of disruption to studies being submitted by the student. In such cases, the affected student will be required to sit a supplementary examination at the place and time nominated by the University.

On successful completion you will be able to:
- Understand the econometric concepts relevant for each topic covered in the unit.

- Estimate econometric models and test parametric hypotheses using techniques that are appropriate for the problem at hand.

- Diagnose and resolve heteroscedasticity, endogeneity, autocorrelation and non-stationarity problems in econometric models.

- Evaluate the appropriateness of alternative econometric techniques in practical applications.

Delivery and Resources

Classes

There is a single 2 hour lecture class per week and there is also a 1 hour tutorial class. Students must enrol in a tutorial class that they are able to attend each week. Changes of tutorial class may only be effected using the online enrolment system and may only be made during the first two weeks of semester.

Required and Recommended Texts and/or Materials

Hill, R.C., Griffiths, W.E., and G.C. Lim (2011) Principles of Econometrics, Wiley, 4th edition.

Adkins, L (2014) Using Gretl for Principles of Econometrics, 4rd edition, http://www.learneconometrics.com/gretl/using_gretl_for_POE4.pdf

Material such as lecture slides, examples, etc will be made available on the unit web site as the unit progresses.

Technologies used and required

The main software used in this unit is gretl. The Windows version may be freely downloaded from http://gretl.sourceforge.net/win32/. For a Mac version see http://gretl.sourceforge.net/osx.html. Linux users should check their repositories or download the rpm or source from http://gretl.sourceforge.net/index.html.

Students may need to use a spreadsheet for some parts of this unit. Microsoft Excel will be provided in the computing laboratories and must be used in some tutorials.

Learning and Teaching Activities

ECON232 is taught by lectures, set reading, tutorial exercises, and class discussion. Students are expected to attend lectures, read the texts after the lecture, attend tutorial classes, submit tutorial exercises and assignments, and participate in class discussions.

Unit Schedule

AN APPROXIMATE SCHEDULE OF WORK (The schedule of lecture topics may be varied during the semester according to the rate of progress made. The deadlines for the assignments, and the tutorial schedule, will be altered only in response to extreme

circumstances).

Week	Topic	Tutorials	Assignments Due
1	Housekeeping, Probability		
2	Probability	Tutorial 1	
3	Probability, Estimation	Tutorial 2	
4	Regression	Tutorial 3	
5	Heteroskedasticity	Tutorial 4	
6	Binary Dependent Variables	Tutorial 5	
7	Binary Dependent Variables	Tutorial 6	Assignment 1
	Mid-semester break		
8	Stochastic Regressors	Tutorial 7	
9	Stochastic Regressors	Tutorial 8	
10	Stationary Time Series Regression	Tutorial 9	
11	Unit Roots and Cointegration	Tutorial 10	
12	Panel Data Analysis	Tutorial 11	Assignment 2
13	Panel Data Analysis	Tutorial 12	

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

New Assessment Policy in effect from Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy_2016.html. For more information visit http://students.mq.edu.au/events/2016/07/19/new_assessment_policy_in_place_from_session_2/

Assessment Policy prior to Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy.html

Grading Policy prior to Session 2 2016 http://mq.edu.au/policy/docs/grading/policy.html

Grade Appeal Policy http://mq.edu.au/policy/docs/gradeappeal/policy.html

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the Learning and Teaching Category of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au.

Academic Honesty

The nature of scholarly endeavour, dependent as it is on the work of others, binds all members of the University community to abide by the principles of academic honesty. Its fundamental principle is that all staff and students act with integrity in the creation, development, application and use of ideas and information. This means that:

- all academic work claimed as original is the work of the author making the claim

- all academic collaborations are acknowledged

- academic work is not falsified in any way

- when the ideas of others are used, these ideas are acknowledged appropriately.

Further information on the academic honesty can be found in the Macquarie University Academic Honesty Policy at http://www.mq.edu.au/policy/docs/academic_honesty/policy.html. Students are required to comply with this policy and heavy penalties may apply in cases where the policy is breached. Several methods are used to monitor compliance with this policy.

Grades

Macquarie University uses the following grades in coursework units of study:

- HD - High Distinction

- D - Distinction

- CR - Credit

- P - Pass

- F - Fail Grade

Descriptors and other information concerning grading are contained in the Macquarie University Grading Policy which is available at: http://www.mq.edu.au/policy/docs/grading/policy.html

Grading Appeals

During the semester, if you wish to query a mark awarded to you for a particular assessment task then you should email the Unit Convenor within 1 week of the marked task being returned to

you. Your email should clearly state the nature of your query and any grounds you have for suspecting that an error has been made in the calculation of your mark. If, at the conclusion of the unit, you have performed below expectations, and are considering lodging an appeal of grade, please refer to the following website which provides information about these processes and the cut off dates in the first instance. Please read the instructions provided concerning what constitutes a valid grounds for appeal before appealing your grade.

http://www.businessandeconomics.mq.edu.au/new_and_current_students/undergraduate_current_students/how_do_i/grade_appeals/

Disruption to Studies Policy

The University is committed to equity and fairness in all aspects of its learning and teaching. In stating this commitment, the University recognises that there may be circumstances where a student is prevented by unavoidable disruption from performing in accordance with their ability. A disruption to studies policy exists to support students who experience serious and unavoidable disruption such that they do not reach their usual demonstrated performance level. The policy is available at: http://www.mq.edu.au/policy/docs/disruption_studies/policy.html. It is recommended that students read this policy before notifying the University of a disruption to studies. Note that to be considered "serious and unavoidable" a disruption must last for 3 consecutive days.

Students who are granted Special Consideration may be required to sit a written and/or oral examination in place of the affected assessment task.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Understand the econometric concepts relevant for each topic covered in the unit.
- Estimate econometric models and test parametric hypotheses using techniques that are appropriate for the problem at hand.
- Diagnose and resolve heteroscedasticity, endogeneity, autocorrelation and non-stationarity problems in econometric models.
- Evaluate the appropriateness of alternative econometric techniques in practical applications.

Assessment tasks

- Tutorial Exercises
- Assignments
- Final Examination

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Diagnose and resolve heteroscedasticity, endogeneity, autocorrelation and non-stationarity problems in econometric models.
- Evaluate the appropriateness of alternative econometric techniques in practical applications.

Assessment tasks

- Assignments
- Final Examination

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Estimate econometric models and test parametric hypotheses using techniques that are appropriate for the problem at hand.
- Diagnose and resolve heteroscedasticity, endogeneity, autocorrelation and non-stationarity problems in econometric models.
- Evaluate the appropriateness of alternative econometric techniques in practical applications.

Assessment tasks

- Tutorial Exercises
- Assignments
- Final Examination